

WHAT IS CLAIMED IS:

1. An optical code scanner system for imaging a target comprising:

an ambient light sensor having at least one photo sensor for sensing ambient light conditions and generating at least one first electrical signal corresponding to the sensing of the ambient light conditions;

a photo sensor array having a plurality of photo sensors for sensing light reflected from the target being imaged and generating a plurality of second electrical signals corresponding the sensing of the reflected light;

at least one of exposure circuitry for controlling exposure during the sensing of the reflected light, gain circuitry for processing gain of at least a portion of the plurality of second electrical signals, and an illumination assembly for providing illumination for illuminating the target; and

a processing circuitry for processing at least a portion of the at least one first electrical signal and controlling at least one of the exposure circuitry, the gain circuitry and the illumination assembly in accordance with the processing of the at least a portion of the at least one first electrical signal.

2. The optical code scanner system of Claim 1, wherein the at least one photo sensor of the ambient light sensor sparsely samples the ambient light conditions.

3. The optical code scanner system of Claim 1, wherein the plurality of second electrical signals are processed for generating a decodable image.

4. The optical code scanner system of Claim 1, wherein the ambient light sensor operates continuously and wherein the first electrical signal is processed continuously.

5. The optical code scanner system of Claim 4, wherein the at least one of the exposure circuitry, the gain circuitry and the illumination assembly is controlled continuously in accordance with the continuously processed first electric signal.

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6. The optical code scanner system of Claim 1, wherein the processing circuitry comprises only analog devices.

7. The optical code scanner system of Claim 1, wherein the processing circuitry determines an ambient light level that corresponds to the processed at least a portion of the at least one first electrical signal electrical signal, and generates a control signal having a selected frequency selected to correspond to the determined ambient light level, and wherein the control signal is output to at least one of the exposure circuitry, the gain circuitry and the illumination assembly for providing control thereof.

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8. The optical code scanner system of Claim 1, wherein the processing circuitry includes an analog comparator for comparing a voltage of the at least one first electrical signal to a reference voltage and outputting a corresponding control signal for controlling the at least one of the exposure circuitry, the gain circuitry and the illumination assembly.

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9. The optical code scanner system of Claim 1, wherein the illumination assembly includes at least one light source, and wherein at least a portion of the at least one photo sensor of the ambient light sensor is positioned in the same plane as the at least one light source of the illumination assembly.

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10. The optical code scanner system of Claim 1, further comprising a decode module including at least one processor for decoding the plurality of second electronic signals.

11. The optical code scanner system of Claim 1, wherein the processing circuitry
15 controls the gain circuitry for setting the gain thereof.

12. The optical code scanner system of Claim 1, wherein the processing circuitry controls the exposure circuitry for controlling exposure time.

13. The optical scanner system of Claim 1, wherein the processing circuitry controls the illumination assembly for controlling at least one of intensity and duration of the illumination provided by the illumination assembly.

5 14. The optical code scanner system of Claim 1, wherein the optical code scanner system is provided with a first aperture through which light passes for striking the ambient light sensor, and a second aperture through which light passes for striking the photo sensor array.

10 15. The optical code scanner system of Claim 14, further comprising at least one lens for focusing light entering at least one of the first and second apertures onto the ambient light sensor and photo sensor array, respectively, and wherein the first and second apertures and the at least one lens are housed in one chassis.

15 16. The optical code scanner system of Claim 14, further comprising at least one lens for focusing light entering at least one of the first and second apertures onto the ambient light sensor and photo sensor array, respectively, and wherein the first and second apertures and the at least one lens are housed in at least a first and second chassis.

17. The optical scanner system of Claim 16, wherein the second aperture is housed
in the second chassis, and wherein the second chassis is removable from the first chassis.

18. The optical code scanner system of Claim 1, wherein the optical code scanner
5 system is provided with one aperture through which ambient light passes for striking the ambient
light sensor and reflected passes for striking the photo sensor array.

19. The optical code scanner system of Claim 1, wherein the ambient light sensor and
the photo array sensor are provided on the same circuit board.

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20. The optical code scanner system of Claim 1, wherein at least one of the ambient
light sensor and the photo array sensor are disabled when photo sensors of the other of the
ambient light sensor and the photo array sensor are enabled.

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21. The optical code scanner system of Claim 20, wherein disabling a photo sensor of
the at least one of the photo sensors includes at least one of physically blocking light from
striking the photo sensor, electronically blocking generation of electrical signals by the disabled
photo sensor, disabling transfer of electrical signals generated by the disabled photo sensor, and

disabling processing of electrical signals generated by the disabled photo sensor, wherein the processing includes at least one of digitizing, image processing and decoding.

22. The optical code scanner system of Claim 1, wherein the gain circuitry, the exposure circuitry and the illumination assembly are controlled before the plurality of second electrical signals are generated.

23. A method of scanning an optical code comprising the steps of:

sensing ambient light conditions and generating at least one first electrical signal

10 corresponding to the sensing of the ambient light conditions;

sensing light reflected from the target being imaged and generating a plurality of second electrical signals corresponding the sensing of the reflected light;

processing at least a portion of the at least one first electrical signal; and

controlling at least one of exposure during the sensing of the reflected light, gain

15 processing of at least a portion of the plurality of second electrical signals, and illumination of the target in accordance with the processing.

24. The method according to Claim 23, further comprising the steps of:

generating an image corresponding to the plurality of second electric signals; and
decoding the image.

5 25. The method according to Claim 23, wherein the sensing ambient light includes

sampling the ambient light, and wherein a decodable image can not be generated from the at least
one first electrical signal.

26. The method according to Claim 23:

10 wherein sensing ambient light step is continuous; and

wherein the processing the at least a portion of the first electrical signal step is
continuous.

27. The method according to Claim 26, wherein the controlling the at least one of the

15 exposure during the sensing of the reflected light, the gain processing and the illumination of the
target is continuous in accordance with the continuously processed first electric signal.

28. The method according to Claim 23, further comprising the step of decoding the

plurality of second electronic signals.

29. The method according to Claim 23, wherein the controlling the gain processing step includes controlling a gain setting.

5 30. The method according to Claim 23, wherein the controlling the exposure step includes controlling an exposure time.

31. The method according to Claim 23, wherein the controlling the illumination of the target step includes controlling at least one of intensity and duration of the illumination.

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32. The method according to Claim 23, further comprising the steps of:
passing light through a first aperture for sensing the ambient light; and
passing light through a second aperture for sensing the light reflected from the target
being imaged.

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33. The method according to Claim 23, further comprising the step of passing light through one aperture for sensing the ambient light and the light reflected from the target being imaged.

34. The method according to Claim 23, further comprising the step of disabling at least one of the sensing of the ambient light and the sensing of the light reflected from the target being imaged when the other of the sensing of the ambient light sensor and the sensing of the light reflected from the target being imaged is enabled.

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35. The method according to Claim 34, wherein the disabling includes at least one of physically blocking light from being sensed by a photo sensor, electronically blocking generation of electrical signals by a photo sensor, disabling transfer of electrical signals generated by a photo sensor, and disabling processing of electrical signals generated by the disabled photo sensor,

10 wherein the processing includes at least one of digitizing, image processing and decoding.

36. The method according to Claim 23, wherein the step of controlling at least one of the exposure, the gain processing and the illumination of the target is performed before the step of sensing light reflected from the target being imaged.

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